We claim:

1. A method of automatically detecting and correcting errors in an electronic shelf label's (ESL's) registers, the ESL's registers storing data controlling the content and formatting of information displayed by the ESL, the method comprising the steps of:

(a) providing an ESL data file comprising a data image of the intended contents of the ESL's registers;

(b) calculating a sumcheck of at least a portion of the data image by an ESL computer;

(c) transmitting a bedcheck message to the ESL by the ESL computer, the bedcheck message including the sumcheck;

(d) receiving bedcheck message by the ESL;

(e) comparing the received sumcheck with a sumcheck calculated using a portion of the actual contents of the ESL's registers, by ESL control circuitry;

(f) transmitting a positive acknowledgement message from the ESL to the ESL computer, if the received sumcheck matches the sumcheck calculated using the actual contents of the ESL's registers;

(g) transmitting a negative acknowledgment message to the ESL computer, if the received sumcheck does not match the sumcheck calculated using the actual contents of the ESL's registers; and

(h) transmitting at least one message to the ESL updating the ESL's registers with the data image contained in the ESL data file, if a negative acknowledgement is received by the ESL computer.

2. The method of claim 1 wherein step (b) through step (h) is repeated to verify the full data image.

11

3.   The method of claim 1 further comprising the step of:

attempting to find the ESL and assign the ESL to a new timeslot, if no acknowledgement

is received in response to the bedcheck message within a predetermined period of time; and

if the ESL is successfully found and assigned, performing steps (b) through (h).

4.   The method of claim 1 further comprising the step of:

providing an error indication, if no acknowledgement is received in response to the

bedcheck message with a predetermined period of time.

5.   The method of claim 1 further comprising the step of:

incrementing, by the ESL computer, a failed checksum tally associated with the ESL, if a

negative acknowledgement is received by the ESL computer.

6.   The method of claim 4 further comprising the step of:

providing an error message to a system operator.

7.   An electronic shelf label (ESL) system comprising:

an ESL for displaying information, the ESL including a plurality of registers for storing

information controlling the content and formatting of the information displayed;

an ESL data file remotely storing a data image of the ESL's registers; and

a host computer system for calculating a sumcheck of a portion of the data image, and

transmitting a bedcheck message including the sumcheck to the ESL,

the ESL receiving the bedcheck message and comparing the received sumcheck with a

sumcheck calculated using the information stored in a portion ESL's registers, said ESL

transmitting a positive acknowledgement message to the ESL computer if the received sumcheck

matches the sumcheck calculated by the ESL, said ESL transmitting a negative acknowledgment

12

message to the ESL computer if the received sumcheck does not match the sumcheck calculated by the ESL,

the host computer transmitting a series of messages to the ESL updating the plurality of registers with the data image contained in the ESL data file, if a negative acknowledgement is received by the host computer.

8.   The system of claim 7 wherein the host computer attemps to find the ESL and assign the ESL to a new timeslot, if no acknowledgement is received in response to the bedcheck message within a predetermined period of time.

9.   The system of claim 7 wherein the host computer provides an error indication, if no acknowledgement is received in response to the bedcheck message with a predetermined period of time.

10.   The system of claim 7 wherein the host computer increments a failed sumcheck tally with the ESL, if a negative acknowledgement is received by the host computer.

13